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RECOMMENDATIONS TO IMPROVE DEFENSE REPORTING ON WEAPON  
SYSTEMS(U) GENERAL ACCOUNTING OFFICE WASHINGTON DC  
MISSION ANALYSIS AND SYSTEMS ACQUISITION DIV 02 MAR 81

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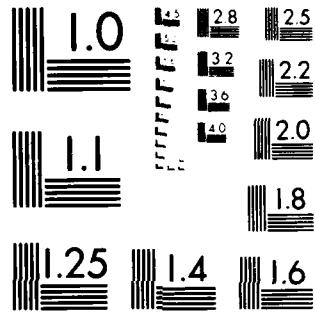
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GAO/MASAD-81-7

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NATIONAL BUREAU OF STANDARDS 196-A



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COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-198152

MARCH 2, 1981

The Honorable Mark O. Hatfield  
Chairman, Committee on Appropriations  
United States Senate

The Honorable John G. Tower  
Chairman, Committee on Armed Services  
United States Senate

The Honorable William V. Roth, Jr.  
Chairman, Committee on Governmental  
Affairs  
United States Senate

The Honorable Jamie L. Whitten  
Chairman, Committee on Appropriations  
House of Representatives

The Honorable Melvin Price  
Chairman, Committee on Armed Services  
House of Representatives

The Honorable Jack Brooks  
Chairman, Committee on Government  
Operations  
House of Representatives

Subject: Recommendations to Improve Defense  
Reporting on Weapon Systems (MASAD-81-7)

We issued three reports 1/ which contained recommendations  
to the Secretary of Defense to improve the Department of

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1/"How to Improve the Selected Acquisition Reporting System"  
(PSAD-75-63, Mar. 27, 1975) to the Congress; "'SARs'--Defense  
Department Reports That Should Provide More Information  
to the Congress" (PSAD-80-37, May 9, 1980) to the Congress;  
and "DOD Information Provided to the Congress on Major Weapon  
Systems Could Be More Complete and Useful" (C-PSAD-80-24,  
May 9, 1980) to the chairman, House Committee on Government  
Operations.

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Defense's (DOD's) reporting to the Congress. These reports addressed (1) Selected Acquisition Reports (SARs); (2) research, development, test, and evaluation (RDT&E) descriptive summaries; (3) Congressional Data Sheets; (4) other budget justification data, and (5) testimony.

Section 236 of the Legislative Reorganization Act of 1970 requires an agency to respond to our reports which contain recommendations and state what actions the agency plans to take to implement the recommendations. DOD responded to our May 1980 reports on July 1, 1980, and September 18, 1980. The responses agreed with some of our recommendations and identified improvements which have been made in the reporting systems. DOD, however, disagreed with several other recommendations. DOD takes the view that it is fully complying with the desires of the Congress and, therefore, does not intend to implement the other recommendations. Since we are convinced that the recommendations would result in the Congress receiving information that would be valuable in carrying out its oversight responsibilities, we are recommending to the Congress that it require the Secretary of Defense to change the SAR system to

- include important systems that are in advanced development; 1/
- expand the required mission capability assessment statement to describe shortcomings and limitations of systems in their expected operational environments; 1/
- include planning estimates and a one-time variance analysis for the planning and development estimates in the first report that includes the development estimate; 1/
- include a brief narrative section on technical and operational risks;
- include cost estimates for categories of logistic support/additional procurement costs related to the weapon system such as modification costs, component improvement costs, replenishment spare costs, industrial facilities/production base, simulators, consumables, and modification spares; 1/ and

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1/We also made these recommendations to the Secretary of Defense in our March 1975 report.

B-198152

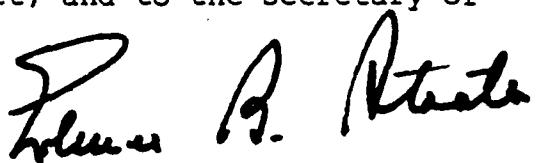
--include a chart showing the impact on the program cost estimate of different escalation rates.

In addition, we recommend that the Congress require the Secretary of Defense to include a section on technical and operational risks in RDT&E descriptive summaries.

We are convinced that implementing these recommendations would result in improved congressional oversight of major weapon systems and overall better management. Much of the information already exists and could be incorporated with little additional effort. We believe that any additional costs associated with providing the information would be justified.

The enclosure to this letter contains DOD's comments on our original recommendations and our response to those comments. Since this report is essentially a reiteration of our prior reports, we did not ask for comments from DOD.

We are sending copies of this report to the Director, Office of Management and Budget, and to the Secretary of Defense.



Comptroller General  
of the United States



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OUR RESPONSE TO DEPARTMENT OF DEFENSE

COMMENTS ON OUR RECOMMENDATIONS

EARLIER SAR REPORTING OF  
IMPORTANT MAJOR SYSTEMS

Our recommendation: The Secretary of Defense should direct that greater consideration be given to (1) adding important systems in advanced development to the reporting system and (2) deleting older systems from the reporting system.

DOD comment: "The March 1975 GAO report on the SAR reporting system recommended that the DOD establish precise criteria for adding major acquisitions to, and deleting major acquisitions from, the SAR reporting system. We agreed, and pursuant to that recommendation the SAR instruction was revised to provide that (1) addition of a new SAR would be automatic with DSARC [Defense Systems Acquisition Review Council] II approval for the system to enter full-scale engineering development, and (2) termination of SAR reporting would normally be considered when production of the system is 90% complete and the program is no longer a procurement budget line item. We believe that these criteria were very precise and that exceptions, calling for earlier commencement of SAR reporting, should be at the request of the oversight committees. Termination of SAR reporting is now coordinated with the oversight committees."

Our response: The important issue here is not (as implied by the DOD comment) whether DOD has "precise" criteria for adding and deleting systems. The issue is whether the Congress and top DOD management would find SAR information useful on major systems which have not yet reached DSARC II. Since the majority of the eventual life cycle costs of a weapon system are determined by decisions made before DSARC II, we believe earlier SAR reporting is necessary. By the time DSARC II rolls around, a system is often so "locked in" that redirection of the program is practically impossible. Thus, we believe all top level decisionmakers need this vital information in the formative years of a weapon system's development. It is at this time that judgments are made which affect the course of multibillion dollar programs for years to come.

MORE MEANINGFUL MISSION ASSESSMENT STATEMENT

Our recommendation: The Secretary of Defense should revise or enforce the SAR instruction so that SARs include a mission capability assessment statement, including expected shortcomings and limitations of the system in its operational environment.

ENCLOSURE I

ENCLOSURE I

DOD comment: "As a result of the March 1975 GAO report on the SAR reporting system, we revised the SAR instruction to require a statement as to the extent the system is expected to satisfy its current mission requirement and to identify those areas where it will fall short. The failure to include this statement in 12 of the 51 SARs is an implementation problem and will be rectified.

"In reference to including additional performance characteristics, we believe that SAR performance characteristics are specifically tailored to the system's mission requirements and, thereby, provide the basis for assessing the system's expected effectiveness in attaining its mission objectives. These are the guidelines provided to the Project Manager at the time his program is initially designated for SAR reporting, and the same guidelines are used by Service and OSD [Office of the Secretary of Defense] review authorities in approving the performance characteristics developed and submitted by the Project Manager. Normally, as a minimum, the final selection includes characteristics for which DCP [Decision Coordinating Paper] thresholds exist, the principal performance requirements of the weapon system contract, and other significant characteristics. In several instances, we have added or deleted to the performance characteristics as the mission requirements change. In view of the above, we believe that current SAR performance characteristics generally conform with the requirements of the GAO recommendation. If the oversight committees develop some quantifiable and appropriate performance characteristics for systems which they feel are deficient, we can add them to the SAR."

Our response: DOD's comment implies that our recommendation was for the addition of performance characteristics in SARs. This was not our intent. Our intent was that the mission capability assessment statement be expanded to include a clear statement of shortcomings and limitations of the system in its expected operational environment. Even in those instances where--as stated by DOD--the "SAR performance characteristics are specifically tailored to the system's mission requirements \* \* \*" we believe most readers of SAR would be unable to relate the values cited to how well the system is expected to perform operationally.

#### REPORTING THE PLANNING ESTIMATE

Our recommendation: The Secretary of Defense should revise or enforce the SAR instruction so that SARs include the planning estimates with a one-time explanation for changes to arrive at the development estimates.

DOD comment: "Our position on including the planning estimate in the SAR remains unchanged since the March 1975 GAO SAR report. The GAO report misinterpreted the directive on this point. It covers the situation when establishing a SAR prior to approval to enter full-scale engineering development (DSARC II). This provision was necessary because in the past the oversight committees have requested SAR reporting while a system was in advance development. Those familiar with SAR reporting, including some in GAO, understand that reporting of the planning estimate and a one-time variance explanation when converting to a development estimate is only necessary for those programs whose SARS commenced prior to the DSARC II approval. Planning estimates are created prior to the definition of the system configuration (which makes pricing a system with reasonable confidence levels difficult) and prior to the Secretary of Defense decision to pursue fully the program as an acquisition program. At this point, the DOD has not yet closed out any of its options for acquiring a specific system, and planning estimates reflect cost performance and schedule characteristics of a "generic" system. Since this is an exploratory phase, program specifications, costs, and quantities must be preliminary and will be more fully developed before selecting one or more alternatives for full-scale development. This is in consonance with OMB [Office of Management and Budget] Circular A-109, which states that care should be exercised during the initial steps of the acquisition process not to conform mission needs or program objectives to any known systems or products that might foreclose considerations of alternatives."

Our response: We disagree with the DOD comment. We fully understand the current practice within DOD for reporting the planning estimates and described this practice in our report. We disagree, however, that our report misinterpreted the instruction on this point. Section C.6. of the SAR instruction states that

"\* \* \* the first report containing the DE [development estimate] will include both the PE [planning estimate] and the DE and provide a one-time variance analysis of the differences between the PE and the DE."

The instruction does not state that this requirement applies only when PE has been reported on previous SARS. Regardless of this disagreement, however, we made the above recommendation because we believe that in the interest of fully documenting major systems, the planning estimate (in whatever form it exists) should be reported in SAR and a one-time variance analysis should be included in the first SAR showing

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DE for all programs. We have maintained for some time that the Congress is entitled to know, and should be advised, of what the planning estimate was. We view the planning estimate as the baseline for measuring future progress. It is also often the estimate that is provided to the Congress at the time initial funding is requested. We recognize that early estimates are often difficult to make with precision and have, as a matter of fact, suggested that such estimates be presented in the form of ranges. DOD rejected that proposal stating that critics tend to abuse the range estimate, using the high or low side of the estimate when making points to detract from the system.

SAR REPORTING OF OPERATIONAL AND  
TECHNICAL RISKS

Our recommendation: The Secretary of Defense should revise the SAR instruction to require that SARs include a section on operational and technical risks.

DOD comment: "We appreciate the need for Congress to be aware of the operational and technical risks of weapon systems. We feel that this information should be provided at the time the Congress reviews and approves funding for the system. Since SARs are not required until approval of full-scale engineering development, the reporting of the operational and technical risks will not be on a timely basis. We feel that in the event there is a request for this information, a proper time and procedure could be established to provide the required data."

Our response: While DOD's comment agrees that the Congress needs these data, it questioned whether SAR is the proper place for presenting it since SARs are normally not prepared until after DSARC II. Our recommendation for earlier (pre-DSARC II) SAR reporting would overcome this objection. We feel our concern would be satisfied, however, if the RDT&E descriptive summary included a narrative on operational and technical risks such as is now included in DOD's internal decision coordinating papers for many major systems.

SAR REPORTING OF LOGISTIC SUPPORT/  
ADDITIONAL PROCUREMENT COSTS

Our recommendation: The Secretary of Defense should revise the SAR instruction to require reporting of logistic support/additional procurement costs and explanations for changes.

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ENCLOSURE I

DOD comment: "This recommendation was made in the March 1975 GAO report and our position remains unchanged. These types of costs are functions of ownership rather than acquisition and are outside of the direct control of the Project Managers. Often logistic support and replenishment spare costs are related to changing resource availability and operational considerations. To include those costs in the SAR baseline would make variance analysis and tracking meaningless, particularly when they are not directly related to acquisition and when most of the costs accrue after SAR reporting is terminated."

Our response: Logistic support/additional procurement costs, as described in our report, would be reported as a separate category of costs and therefore would not impact on the SAR baseline or variance analysis. Because tradeoffs to keep acquisition costs down often result in higher operating costs, we believe the broader view provided by including these costs in SAR would make SARs more useful to the Congress in its decisionmaking.

REPORTING COSTS BASED ON SEVERAL DIFFERENT ESCALATION RATES

Our recommendation: The Secretary of Defense should revise the SAR instruction to require a chart showing the impact on the program cost estimate of using different escalation rates.

DOD comment: "As the GAO report indicates, this information was provided in SARs prior to June 30, 1979. The detailed review and coordination which led to the latest SAR revision revealed no need or request for this information. The proposed revision to the instruction was provided to the Congressional oversight committees before the final decision was made to remove the escalation chart. Since this was a time-consuming chart to prepare, and difficult to understand we decided to replace it with information that was more relevant. Therefore, it was replaced with tracking of the Design-to-Cost goal."

Our response: The DOD comment implies no congressional objections to the revised instruction. However, the absence of congressional objections to the revised instruction cannot, in our opinion, be interpreted to mean that the information provided by the cited chart was not useful. Current cost estimate increases for the F/A-18, as an example, clearly demonstrates the importance of more realistic consideration of inflation. We strongly believe cost estimates showing a more relevant range of escalation projections would not only be useful to the Congress but would add more credibility to DOD's reporting.

REPORTING OPERATIONAL AND TECHNICAL  
RISKS IN RDT&E DESCRIPTIVE SUMMARIES

Our recommendation: The Secretary of Defense should include an operational and technical risk section in RDT&E descriptive summaries for major systems, including descriptive summaries for major systems not yet in full-scale engineering development.

DOD comment: "The definition of risk is to a large extent open to individual interpretation. Because of this, caution should be taken in attempting to specifically categorize the risk of a program in subjective terms, i.e., low, medium, or high. However, risk is a consideration in the development of test and evaluation plans. The degree or magnitude of the testing required is a measure of risk."

"The descriptive summaries for major systems contain a test and evaluation section which describes the degree of testing required to insure that a program meets technical performance specifications. This section also may contain comments on the degree of risk if it can be determined for the overall system.

"It is therefore not necessary to add an additional section to the descriptive summary to specifically discuss risk. This would add a measure of duplication, and unnecessarily increase the size of the descriptive summary."

Our response: We disagree with DOD's comment. We believe RDT&E descriptive summaries do not present a clear and concise statement of technical and operational risks. As stated in our response to the similar SAR recommendation above, internal DOD documents make a much clearer presentation of risk. Such a section would not, therefore, be a duplication of data already in the descriptive summaries, especially for systems that have completed little or no developmental or operational testing.